MODERN EUGENICS.

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Being a review of *the Need for Eugenic Reform* by Leonard Darwin.

The subject of Eugenics, more than any other in contemporary thought, appears to defy formal classification. Not a political creed, it bears intimately upon a dozen political questions; not a religion, it emphasises moral responsibilities almost neglected by the Churches; much more than a science, it stands or falls by the great biological advances of the last two generations, and in a very special sense is a product of the evolutionary theory.

An appreciation of the similarity of organic beings, including mankind, and an inkling of the possibility of their origin by gradual transmutation, was familiar to Greek thinkers; and even at their vaguest such ideas must prompt questions as to the future of the human race. Such indistinct analogies as were available might suggest equally either boundless hopes or the gloomiest surmises; but, in the absence of an exact elucidation of the chain of causes by which the present situation determines the future state, could provide no basis for moral endeavour, or for concerted action. The process must be envisaged at this stage as predetermined, and automatic, overruling the accidents both of human knowledge and of human effort.

What made the practical difference, and marked an epoch, the importance of which it is even now difficult to gauge, was not the acceptance of organic evolution as an historical fact, but the discovery in natural selection of a means whereby, through the action of known causes, existing conditions, capable of human adjustment and control, produce organic changes. The middle nineteenth century was a period of confidence and enterprise. It is characteristic of the time that in the absence of a practical working cause, philosophical speculations as to organic evolution as an historical fact were treated with coldness and indifference; whereas, as soon as the effective agency was discovered, the most advanced thinkers of the time hailed the theory with a boundless enthusiasm which overcame all opposition.

The task of applying the new knowledge to man fell to Francis Galton, a man of restless versatility; lion hunter and explorer, meteorologist and statistician, his ingenuity in devising new methods of research found its last and most lasting outlet in the measurement of human characteristics. Psycho-physical measurements and mental testing excited his interest, and owe to him much of their present importance; in addition, so well did he lay the foundations of the study of human heredity that the physical and mental characters in man are still among the best understood of the heritable quantitative characters. His work in fact left no room to doubt that if the much abused "methods of the stock-yard" were applicable to mankind, the human race could be improved in any desired direction, within a short historical period, to an extent exceeding existing differences

between widely different races. Incidentally, it was Galton who provided eugenics with a name; a slightly pedantic one, with high-brow affinities, yet not inappropriate in suggesting the somewhat severe and intellectual detachment with which it is necessary to approach difficult questions, especially those of intense human interest.

Quite distinct from the line of thought suggested by evolutionary theory, and touching a much wider circle of educated opinion, is the enigma presented by the fall of once powerful nations; and even more insistently, by the decay of far reaching and well established civilizations. The lessons of the past are perplexing and, at first sight at least, discouraging. It is not merely that history shows us no fool-proof organisation of society; it shows us no great nation which does not seem to lose, after a few centuries of progress and achievement, almost every quality which could warrant our admiration. The anxiety aroused by this spectacle was met in the eighteenth, and to a decreasing extent in the nineteenth centuries, by the theory that personal liberty was the panacea. The Romans were represented as having lost, by some accident of internal dissension, their birthright of a popular government; and their decay could be ascribed to the inevitable consequences of a despotic regime. Few now have such faith in political institutions, and the anxiety of the thinking public is chiefly allayed by the fact that few in a modern State have occasion to feel responsible for the consequences of our corporate acts.

Whether this enigma will find its solution in the study of human inheritance and of the selective influences characteristic of civilised life is a question of which the future will judge. For the present, it is certain that the great impetus which Eugenics has received in modern times is due to the injuries which modern legislation seems liable to inflict upon the hereditary qualities of our immediate posterity. Many pieces of modern administrative machinery strike those who have occasion to study their workings with the forcible impression that they might have been designed to repress parenthood among the self-respecting, while encouraging boundless fecundity among ne'er-do-well, or deliberately parasitic, groups. Impressions formed thus, after long and impartial experience of the actual workings of the most benevolent types of state action, aimed especially at the relief of hardship and poverty, will not be easily effaced by the facile assurance that all we have to do, to relieve the nation of what appear to be hereditary defects and disabilities is to "clear away the slums," and to "ensure to everyone a good education." These things are more easily said that done, and will only be said by those who, determined to shirk the eugenic question, are willing to make the most extravagant claims for the benefits of such institutional environment as it is possible to provide. We are told to provide "a good education," but if father and mother are criminal or dissolute by what means is the State to provide a *good* substitute for a *good* father and mother? Is the effective agency to be the educational service, the police, or the poor-law? Those who would persuade themselves that all mental and moral disabilities are ascribable to early environment are building up an unanswerable case for the discouragement of reproduction in bad homes.

In considering an extensive work we are concerned with the qualifications of the author. Major Leonard Darwin can look back to long experience of administrative and public work. Without being a scientific specialist, he has the somewhat rare qualification of a life-long and detached interest in the natural sciences. No reader of this book will deny his patience in weighing opinions, and deliberate caution in decision—qualities which appear to have built up and matured a power of profound and wholly rational judgment. The book is a storehouse of arguments, and Major Darwin seems to have inherited in full the power of stating carefully and sympathetically arguments in opposition to his own views. Examples of arguments peculiarly his own, which should have a lasting effect on eugenic policy, will be given below, and these must serve to convey an idea of the contents of the book.

There are five ways in which the activity of the present generation may possibly benefit mankind in the future, (*a*) environmental reform, by tradition or permanent physical improvements; (*b*) by the care of prenatal life (*c*) by preventing the permanent injury of the germ-plasm by (so-called) racial poisons (*d*) by the possible inheritance of acquired characters (*e*) by selection. Of these, (*a*), though of immense importance, is not the subject of this book; it is, however, stressed that improved environment will always be welcomed by eugenists, not only for its own value, but also because the less evil can be ascribed to bad environment the more obvious will the need of racial improvement be made, and the more easily will it be effected. Similarly, the sympathy with which we regard the care of prenatal life must not allow us to neglect the special province of eugenic reform. The racial effects of the so-called racial poisons, syphilis and excessive alcohol, are too uncertain to strengthen at all the case for combating these scourges with all our power, and should not influence our social policy. The inheritance of acquired characters, if established as a fact, would fall, theoretically, within the field of eugenics, yet since it is acknowledged by those biologists who take the Larmarckian view, that the racial effects of any possible improvement in human education would be at most extremely slow, we cannot rely upon them as a practical eugenic policy. We may regret that it is not within our power to combat mental and moral deficiency in this way, yet we must rejoice on the contrary that the effects of environmental demoralisation will not appreciably, if at all, afflict the inborn quality of future generations. To the practical man, therefore, the field for eugenic action is limited to the encouragement of the well endowed, and the discouragement or prevention of the defective, in handing on their qualities to future genera tions. (Chaps. v., viii.).

A point of the greatest practical importance developed in Chapter X is the distinction that must be drawn, both in our aims and in our methods, between the single and the multiple factor characters. In man, a number of characters are known, for the most part rare defects, and in no known case a desirable quality, which depend upon a single mendelian factor, dominant or recessive. Of these the most important is feebleness of mind, if the view be true, of which there is considerable but by no means conclusive evidence, that a large proportion of the

feeble in mind owe their defect to a single mendelian recessive. The other cases, though often serious personal afflictions, are sufficiently rare to be comparatively unimportant in relation to the eugenic progress of the population as a whole. On the other hand, the majority of important human characteristics, which distinguish the valuable or desirable citizen from the undesirable, and in particular those which distinguish the gifted from the mediocre, are certainly due to a number, and probably to a considerable number, of separate heritable factors. These show a type of inheritance similar to that of human stature, the study of which, by biometrical methods, provides abundant evidence that the inheritance is in reality due to a large number of mendelian factors, each having effects so small compared to the general variation that they cannot be individually recognised. In the case of defects due to a single factor it is possible, in any case of sufficient importance. to proceed by individual selection: the number of afflicted individuals is small compared with the general population; the defect can usually be recognised with certainty, and in the case of dominant defects depends for its continuance solely upon the procreation of defective parents. A dominant defect can, therefore, be abolished without serious difficulty in the course of a single generation, and even with recessive defects, where the taint is carried by a much larger number of normal than of defective individuals, the decrease of its incidence which can be certainly achieved is more rapid than is usually imagined.

Of much more importance to the population as a whole are those characters of body and mind which depend upon a large number of heritable factors. In these cases the factors are not, individually, recognisable, and individual diagnosis can only tell us the degree to which a desirable or undesirable quality is developed. The undesirable factors will be spread with varying concentration throughout the whole population, and, though extreme types may be recognised, any practical influence which we can exert upon the birthrate of these rare and extreme types will have disappointingly little influence upon the average degree in which the character shows itself in future generations. The effect of encouraging a small degree of additional fertility among men of genius is aptly compared to the effect of distributing among the general population the wealth of a few millionaires, a procedure which would certainly lead to general disappointment. With multiple factors we are always led, in fact, to attach too great importance to levels of ability which attract attention by their rarity; whereas our attention ought to be concentrated upon the great body of citizens, somewhat above and somewhat below the general average respectively. If, in practice, we are considering the eugenic or dysgenic effects of legislation which may affect the fertility of whole classes, it is classes not very much above or below the average of the general population in social status that are of the greatest eugenic importance. The two levels to which, on theoretical considerations, Major Darwin calls especial attention, comprise, on the one hand, the elementary school teacher, the highly paid artisan, and the better-paid foreman; while, on the other hand, the class of the greatest importance below the general average is roughly represented by the urban labourer. Any legislative action, or social tendency, which affects fertility at these

two levels may be of immense importance to the hereditary endowments of the nation in the future; and it is because the differential birthrate is not a phenomenon of the social extremes, but influences the great classes into which the mass of the population may be divided, that its consideration must long be of overwhelming importance in all questions of eugenic reform.

It is necessary to pass over with a bare mention the most interesting chapter (XVII) in which the magnitude of the economic burden which the less fit of the nation throw upon the efficient citizens of every class, and in which some of the ramifications are traced by which this burden is distributed; nor can we say more of the chapters on special social types, the feeble minded, the criminal and the insane, than that the reader of any of these chapters will, before long, light upon some new thought, which on reflection will strike him as singularly well considered.

The central problem of the elimination of the less fit, with its equally difficult counterpart, the encouragement of multiplication among the more fit, is tackled in Chapters XXI and XXII. Here the casual reader may gain an impression of vacillation, though my final impression is that the author is steering a narrow and tortuous course amid real difficulties. First, it is argued that any effective control over the rates of multiplication of different sections of the people can only be exerted through family limitation—a conclusion it is difficult in present circumstances to avoid, though perhaps more weight could be given to those agencies which influence the frequency and age of marriage. Next, it is shown that voluntary limitation involves, and must always involve, certain dysgenic selective elements, and that in the immediate past as well as at the present time its influence has been in a high degree dysgenic. As to the effects of a further spread of these practices, it is shown that this must involve both advantages and disadvantages to the race. The author, for once allowing his convictions to draw a firmer conclusion than the argument he presents seems to warrant, inclining somewhat strongly to the view that an extension of contraceptive practices would now tend somewhat to mitigate the evil. Finally, it is urged that purely voluntarily family limitation can never be eugenic in its effects, but might become so if reinforced by some measure of pressure or compulsion. Such pressure would, of course, be applied only to the minority of extreme cases, but might act as a deterrent throughout a considerable body of the less efficient citizens. The machinery proposed would be based upon the receipt of an exceptional amount of relief through the poor-law or charitable sources, and would consist of warnings where it seemed probable that a family of more than two would be produced without the means of self-support in tolerable conditions. Such warnings, if disregarded, should be followed by an actual segregation of the defaulters. "It will be said, and very likely with truth, that any such reforms as are here suggested are utterly Utopian. But, if this be so, I hold that to hope to prevent the decay of our civilisation is Utopian also". (p. 388).

With respect to the multiplication of the more fit, it is a matter of particular personal gratification to the reviewer, that Major Darwin

has accepted the principle that one of the causes of the low rate of multiplication of the upper and middle classes, lies in the continual social promotion of persons and families characterized by hereditary tendencies favouring low fertility, and that the most important of these tendencies lie in the mental and moral characters favouring, on the one hand, late marriages, and on the other hand, family limitation. Nevertheless, he gives reasons for some confidence that a determined campaign, based upon both patriotic and religious sentiments, should have a considerable and lasting success in checking the elimination of superior types; while the concluding pages of Chapter XXII, in which he summarises the moral considerations which should weigh with all right-minded persons in this matter, should be very carefully read, especially by those who share the too prevalent opinion that Eugenics is essentially a birth-control movement.

Of the economic reforms by which such a campaign should be supported there are several valuable suggestions, among which may be noted reforms in the allocation of state aided scholarships, in the extension of relief from income tax to parents, and, by far the most important in the scope of its application, the institution of family allowances.

The last topic will certainly provoke increasing discussion and consideration in this country, and it is as well to be put on our guard that the eugenic consequences of the different possible systems may be of sufficient magnitude to outweigh even the economic aspect of the question, important as this latter is. It is much to be feared that, unless the great body of educated opinion informs itself rapidly, and from impartial sources, on this important movement, schemes may be framed in disregard of the racial consequences and an opportunity lost of performing, for the benefit of future generations, a service of the first magnitude.